

Claims

1. A method for pre-suppressing noise of an image, processing a DCT (Discrete Cosine Transform) coefficient value in sequence during quantizing the DCT coefficients value of a CIF (Common Intermediate Format) image blocks, comprises the steps of:

detecting whether the currently processed DCT coefficient value is equal to or less than a corresponding threshold used for this time, if it is, setting the DCT coefficient value to zero, then increasing the threshold of this time to be used as a threshold for the next processing of DCT coefficient, otherwise recovering the threshold of this time to be used as a threshold for the next processing of DCT coefficient to a predetermined initial threshold;

detecting whether the increased threshold is greater than a predetermined upper limit of a threshold, if it is, substituting the increased threshold with the predetermined upper limit.

2. The method of the Claim1, further comprising the step of:

respectively filtering luminance components and chrominance components at vertical and horizontal direction with a low-pass FIR filter which cut-off frequency being less than 0.5π during transforming a video image from the CCIR 601 format to the CIF format.

3. The method of the Claim2, wherein the low-pass FIR (Finite Impulse Response) filter is one-dimensional FIR filter.

4. The method of the Claim2, wherein the cut-off frequency of the low-pass FIR filter can be between 0.25π to 0.4π .

5. The method of the Claim2, further comprising the step of:

further filtering the image by a two-dimensional median filter.

6. The method of the Claim1, wherein increasing the threshold of this time to be used as a threshold for the next processing of DCT coefficient by one.

7. The method of the Claim1, the sequence of processing DCT coefficients value is starting from the upper left corner of a DCT coefficient table and ordering in a zigzag pattern.

8. The method of the Claim1, wherein the initial threshold and the upper limit of threshold can be predetermined with that the initial threshold equals to kQ and the upper limit of threshold equals $1.5kQ$, wherein the Q is the quantized level and the k is a constant between 0 to 1 determined by the channel bandwidth.